Remarks

The present amendment responds to the Official Action dated February 14, 2007. The Official Action rejected claims 1, 7, 8, and 11 under 35 U.S.C. 103(a) based on Leung U.S. Publication No. 2002/0167913 (Leung) in view of Kim U.S. Publication No. 2003/0083092 (Kim). The Official Action rejected claims 2, 3, 9, 10, 12, and 13 under 35 U.S.C. 103(a) based on Leung in view of Kim and further in view of Larsson U.S. Patent No. 5,241,690 (Larsson). The Official Action rejected claims 4-6, 14, and 15 under 35 U.S.C. 103(a) based on Leung in view of Kim, further in view of Larsson and further in view of Dent U.S. Patent No. 5,894,473 (Dent). These grounds of rejection are addressed below.

Claims 1, 7, 8, and 11 have been amended to be more clear and distinct. Claims 1-15 are presently pending.

The Art Rejections

As addressed in greater detail below, Leung, Kim, Larsson, and Dent do not support the Official Action's reading of them and the rejections based thereupon should be reconsidered and withdrawn. Further, the Applicants do not acquiesce in the analysis of Leung, Kim, Larsson, and Dent made by the Official Action and respectfully traverses the Official Action's analysis underlying the rejections in its entirety.

The Official Action rejected claims 1, 7, 8, and 11 under 35 U.S.C. 103(a) based on Leung in view of Kim. In light of the present amendments to claims 1, 7, 8, and 11, this ground of rejection is respectfully traversed.

Claim 1, as amended, addresses a mobile unit operative to transmit periodic encoded indications of a signal to noise ratio being experienced by the mobile unit as sensed by the mobile unit, and a base station operative to transmit data to the mobile unit. The base station receives the indicator signals from the mobile unit and generates a channel condition prediction reflecting a channel condition expected to be experienced by the mobile unit on an ongoing basis as conditions experienced by the mobile unit change, basing the channel condition prediction on a balanced estimate using the most recent channel condition indicator value and a mean of past channel condition indicator values. The condition prediction is used to dynamically manage data transmission to the mobile unit. The dynamic management of data transmission to the mobile unit includes scheduling transmission of data to the mobile unit.

These limitations in the claimed combination are not taught and are not made obvious by Leung, Kim, or a combination thereof. Leung teaches channel estimation in a wireless communication system. Leung employs a traffic channel signal and a reverse link pilot signal. A reverse link pilot channel includes a forward link power control signal comprising a single bit representing a signal from a mobile station to a base station to either increase or decrease its transmit power. Leung teaches the estimation of channel statistics in order to adaptively filter a pilot signal, and uses channel information such as information derived from received channel signals in order to make estimates. The Official Action admits that Leung does not teach that a signal received by a mobile station includes encoded indications of a signal to noise ratio being experienced by the mobile unit as sensed by the mobile unit, but relies on Kim to overcome this deficiency. However, adding Kim to Leung does not cure Leung's deficiencies as a reference

with respect to claim 1, as amended. Kim does not address the use of channel condition information signals indicating a channel condition as sensed by a mobile unit to manage scheduling of data transmission to the mobile unit, and does not address the use of successive channel condition information signals in performing a channel prediction to be used in scheduling of data transmission to the mobile unit. Instead, Kim teaches the use of channel condition information transmitted from a mobile unit to a base station in order to set a power level of a common power control channel, with the common power control channel being used to indicate a transmission power to be used by a mobile unit in a transmission to the base station.

Kim teaches systems and techniques for setting a power level of forward common power control channels transmitted by sectors or base stations included in an active set by a mobile unit in a mobile communication system. The mobile unit receives forward common pilot channels and forward common power control channels from sectors in the active set. The mobile unit measures received signal strength indicators of the pilot channels to identify a sector having a best forward channel condition, and identifies the sector as the best sector, as well as a received signal strength indicator, obtained by measuring the forward common pilot channel. The mobile unit transmits a reverse channel quality indicator channel including information indicating the best sector and the signal strength indicator. The mobile unit measures energy of common power control channels from all sectors in the active set, and determines power control bits for forward power control, to be transmitted to the sectors in the active set, based on the measured energy values of the common power control channel symbols. The mobile unit transmits the power

control bit over a reverse pilot channel and transmits a channel quality indicator channel to the identified best sector.

The sector receiving the channel quality indicator channel measures power of the received channel quality indicator channel, comparing the measured power to a threshold. If the measured power is above the threshold, the information in the channel quality indicator channel is used to set power of the common power control channel, but if the measured power is below the threshold, the power control bit is used. The common power control channel is used to set transmission power of the mobile unit. The channel condition information included in the channel quality indicator channel is not used for scheduling of data transmission, but is used to control power of a common power control channel, which is in turn used to control power of the mobile station. In addition, the sector, or base station, does not uses a series of channel quality indicator channel signals to predict future conditions of a channel, but instead acts on each channel information indicator as it is received. Therefore, it would not be obvious to combine Leung and Kim to use a series of encoded indicators indicating a condition of a channel as experienced by a mobile station to generated a predicted condition of the channel, and to use that predicted condition to manage scheduling of data transmission to the station, and combining Leung and Kim would not achieve these features. Claim 1, as amended, therefore defines over the cited art and should be allowed.

Claims 7, 8, and 11 similarly address receiving channel indicator values indicating a channel condition experienced by a mobile unit, predicting a channel condition using the channel condition indicators values, and using the predicted channel condition to manage scheduling of

data transmission to the mobile unit. For the reasons stated above with respect to claim 1, these features are not taught and are not made obvious by Leung, Kim, or a combination thereof. Claims 7, 8, and 11 therefore define over the cited art and should be allowed.

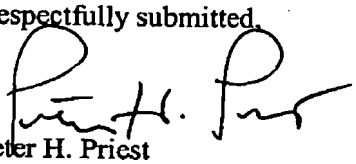
The Official action rejected claims 2, 3, 9, 10, 12, and 13 under 35 U.S.C. 103(a) based on Leung in view of Kim and further in view of Larsson. Claims 2 and 3 are dependent claims having claim 1 as a base claim, claims 9 and 10 are dependent claims having claim 8 as a base claim, and claims 12 and 13 are dependent claims having claim 11 as a base claim. Because claims 1, 8, and 11, as amended, have been shown to be allowable, claims 2, 3, 9, 10, 12, and 13 should also be allowed.

The Official Action rejected claims 4-6, 14, and 15 under 35 U.S.C. 103(a) based on Leung in view of Kim, further in view of Larsson and further in view of Dent. Claims 4-6 are dependent claims having claim 1 as a base claim and claims 14 and 15 are dependent claims having claim 11 as a base claim. Because claims 1 and 11 have been shown to be allowable, claims 4-6, 14, and 15 should also be allowed.

Conclusion

All of the presently pending claims, as amended, appearing to define over the applied references, withdrawal of the present rejection and prompt allowance are requested.

Respectfully submitted,



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